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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/750,881 Confirmation No. 2097  
Applicant : Joachim Boltz  
Filed : January 5, 2004  
TC/A.U. : 3747  
Examiner : Johnny H. Hoang  
  
Docket No. : R.303403  
Customer No. : 02119

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: November 1, 2004

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(c),  
AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART**

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(c), since it is being filed before the mailing date of a final office action and is being accompanied by the fee of \$180 as set forth in 37 CFR 1.17(p).

The relevance of the prior art cited on the attached form 1449 is as follows:

**US 5,458,292**

According to the teachings of this patent, a fuel injection nozzle has an outer body member and an inner body member, the inner body member being positioned in a secondary axially extending cavity in the outer body member for sliding movement within. Also included is a valve needle positioned in a primary axially extending cavity in the inner body member for sliding movement within. The inner body member acts as a first fluid pressure actuated valve needle for injecting fluid between the inner member and the outer member when the inner member is displaced axially by fluid pressure. The valve needle acts as a second fluid pressure actuated valve member for injecting fluid through an extension of the second axially extending cavity when the valve needle is displaced axially by other fluid pressure. First fluid orifices extend through an end of the outer member for spraying fuel released by displacement of the inner body member. Second fluid orifices extend through an end of the inner member for spraying fuel released by displacement of the valve needle.

**WO 02/187775 A1**

This patent teaches a dual mode fuel injector having first (15) and second (30) valve members. The valve members are actuatable independently of one another and are arranged to open in opposite directions. The valve members control the flow through first (18) and second (29) orifices, one of which injects the fuel at a narrow angle with respect to the injector axis, and the other of which injects the fuel at a wider angle with respect to this axis.

Appl. No. 10/750,881  
IDS filed Nov. 1, 2004  
After first Office Action

**EP 1 035 332 A2**

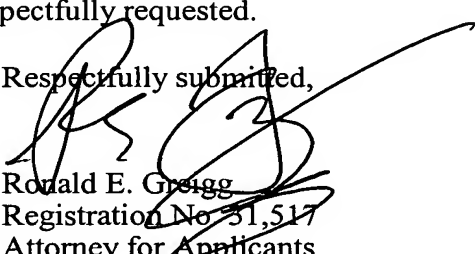
This patent teaches a system in which a fuel injector comprises a nozzle body (10) defining a bore (11) and an outwardly opening valve member (12) that is slidable within the bore (11). The valve member (12) defines a blind bore (17) within which an inwardly opening valve needle (18) is slidable. The valve needle (18) is engageable with a seating (20) to control fuel flow towards a first outlet opening (21) provided in the valve member (12). A second outlet opening (22) is provided in the valve member (12) being in constant communication with a part of the blind bore (17) upstream of the seating (20). It is located such that, in a closed position of the valve member (12), the second outlet opening (22) is closed by the nozzle body (10). Outward movement of the valve member (12) to an open position permits fuel delivery through the second outlet opening (22).

**DE 415417**

No translation available. This patent is cited to show the state of the art in the PCT search report.

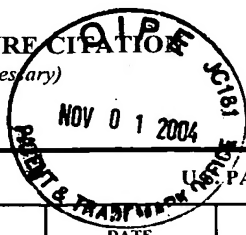
Examination of this application is respectfully requested.

Respectfully submitted,

  
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Attorney for Applicants

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J:\Bosch\R303403\04-10-07, R303403, IDS.wpd

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)



Docket Number (Optional)

**R.303403**

Application Number

**10/750,881**

Applicant(s)

**Joachim Boltz**

Filing Date

**01-05-2004**

Group Art Unit

**3747**

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		<b>5,458,292</b>	<b>10-17-1995</b>	<b>Martin J. Hapeman</b>			

**U.S. PATENT APPLICATION PUBLICATIONS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

**FOREIGN PATENT DOCUMENTS**

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
		<b>WO 02/18775 A1</b>	<b>03-07-2002</b>	<b>PCT</b>			✓	
		<b>EP 1 035 332 A2</b>	<b>09-13-2000</b>	<b>European</b>			✓	
		<b>DE 415 417</b>	<b>06-29-1925</b>	<b>Germany</b>				✓

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

NOV 0 1 2004

PTO/SB/17 (10-04v2)

Approved for use through 07/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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# FEE TRANSMITTAL for FY 2005

Effective 10/01/2004. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 180.00)

## Complete if Known

Application Number	10/750,881
Filing Date	01-05-2004
First Named Inventor	Joachim BOLTZ
Examiner Name	Johnny H. Hoang
Art Unit	3747
Attorney Docket No.	R.303403

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None
☒ Deposit Account:
 Deposit  
Account  
Number  
Deposit  
Account  
Name

07-2100

Ronald E. Greigg

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

## 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	790	2001	395	Utility filing fee	
1002	350	2002	175	Design filing fee	
1003	550	2003	275	Plant filing fee	
1004	790	2004	395	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)				(\$)	

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below		Fee Paid	
Total Claims	<input type="text"/>	-20** =	<input type="text"/>	X	<input type="text"/>	=	<input type="text"/>
Independent Claims	<input type="text"/>	-3** =	<input type="text"/>	X	<input type="text"/>	=	<input type="text"/>
Multiple Dependent					<input type="text"/>	=	<input type="text"/>

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	88	2201	44	Independent claims in excess of 3	
1203	300	2203	150	Multiple dependent claim, if not paid	
1204	88	2204	44	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)				(\$)	

\*\*or number previously paid, if greater. For Reissues, see above

## FEE CALCULATION (continued)

## 3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	430	2252	215	Extension for reply within second month	
1253	980	2253	490	Extension for reply within third month	
1254	1,530	2254	765	Extension for reply within fourth month	
1255	2,080	2255	1,040	Extension for reply within fifth month	
1401	340	2401	170	Notice of Appeal	
1402	340	2402	170	Filing a brief in support of an appeal	
1403	300	2403	150	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,370	2453	685	Petition to revive - unintentional	
1501	1,370	2501	685	Utility issue fee (or reissue)	
1502	490	2502	245	Design issue fee	
1503	660	2503	330	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	180.00
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR 1.129(b))	
1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 180.00)

## SUBMITTED BY

Name (Print/Type) Ronald E. Greigg

Registration No.  
(Attorney/Agent)

31,517

(Complete (if applicable))

Telephone 703-838-5500

Signature

Date

11/1/2004

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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